



Aerospace Advisory Committee Meeting

Thursday, April 24, 2008

10:00 a.m.

Northrop Grumman Corporation
One Space Park Dr. Bldg. E2, Room 10000
Redondo Beach

MEETING SUMMARY

Committee Members present

Lt. Governor John Garamendi, Chair, CED
The Honorable Andrea Seastrand,
Committee Chair, CSA
Leonard F. Kwiatkowski, Lockheed Martin
Corporation
Gary Toyama, The Boeing Company
Susan Sloan, Raytheon
Celeste Ford, Stellar Solutions (via
teleconference)
Mark Sirangelo, SpaceDev
John Daegele, Northrop Grumman
Corporation

Others present

Vicki Conner, Strategic Vitality LLC
Eric Daniels, CSA
Michele Gault, CED
Mike Hauben, Lt. Governor's office
Marsha Kwalwasser, Northrop Grumman
Michael Jackson, Boeing
Michael Kelly, Boeing
Brian Terrell, Boeing
Stacy Rue, Lockheed Martin
Allen Hoffman, Boeing
Jessica Duboff, Rep. Jane Harman's office

Opening Remarks

In his introductory remarks, Lt. Governor John Garamendi discussed education and how it is a major challenge in California, particularly in Los Angeles and San Jose, where drop out rates are much higher than average. The education problem impacts the aerospace industry. He stated that career and technical education (CTE) programs are fundamental to the future of education, and thus the economy, but state budget problems will cause a roadblock. He discussed climate change and the importance of the aerospace industry in tracking global warming using satellite imagery.

Positive Statewide Economic Impact: California Aerospace, A Growth Industry

Andrea Seastrand, Executive Director, California Space Authority (CSA) and Chairperson, Aerospace Advisory Committee, provided background information on the significance of the aerospace industry to California's economy. She stated that the companies represented on the aerospace advisory committee alone account for 90,000 jobs in California. CSA conducted a study showing that the industry's impact in California is upward of \$52 billion. 27% of the U.S.

aerospace industry is located in California. Aerospace supports a large number of other industries. CSA is a recipient of a large U.S. Department of Labor WIRED grant. CSA plans to share information on the deliverables with the CED at the end of the year.

Yesterday and Today: Aerospace Supporting California

- California Aerospace Legacy

Len Kwiatkowski, VP/GM, Global Communications, Lockheed Martin Space Systems Company. Mr. Kwiatkowski stated that California is number one when it comes to the aerospace industry and that many other states would like to take our business. The industry in California grew out of the military following World War II. A lot of “firsts” have occurred in California, and the aerospace industry wants to stay here. The Lt. Governor asked about strategies for ensuring that the industry stays in California.

- Air & Space Applications Enhancing Sustainability/Quality of Life

Mark Sirangelo, CEO/Vice Chairman, SpaceDev, provided information about his company and explained the types of applications they create for the commercial aerospace sector. SpaceDev develops new technologies in small satellites, deployable structures, hybrid propulsion systems and advanced space vehicles. They have participated in over 250 successful space missions.

Kellie Johnson, president and CEO of ACE Clearwater Enterprises stated that her company has hired 40 new employees since she last met the Lt. Governor in 2007. However, their workforce needs remain high and the company is investing in computing power.

John Daegele, Sector VP, System Engineering, Integ/Test, Northrop Grumman Space Technology, stated that an overlooked aspect of the aerospace industry is the high quality of the workforce.

Technical Workforce Crisis/Education Challenge

Gary Toyama, VP Southern California Region, The Boeing Company stated that in order to remain competitive, companies have to seek highly educated and skilled workers. It is important to note that the average age of an aerospace worker is 54. One half of the aerospace workforce is engineers. 80% of the workforce are baby boomers. Replenishing the workforce is a great challenge, as only 7% of graduates want to become aerospace engineers. It is crucial to start a pipeline in the K-12 system. There are 6 million students in California, in grades K-12. Many of them are minorities. A great many math and science teachers aren't qualified. The K-12 system could tap into retirees for teachers. For example, there are 50,000 Boeing retirees in Southern California. They could teach in the K-12 system but they need credentials. Boeing is starting some pilot programs that would help get retired workers into the classroom.

Len Kwiatkowski stated that Lockheed Martin supports Project Lead the Way. They support a program in the Silicon Valley to bring STEM teachers into the manufacturing community. There are a lot of examples of the private sector contributing to education.

The Lt. Governor stated that there will be fewer engineers graduating because 10,000 less students will be able to attend the CSU schools this year, due to budget cuts.

Andrea Seastrand noted that CSA is working with “Troops to Teachers”, a program for getting retired military personnel certified to teach. The San Diego school system is supportive of this program. “SEARCH” is the name of the program to fast-track teacher certification. Ms. Seastrand also discussed the STEM Action Plan, one of the products of the WIRED grant.

California Aerospace Competitiveness: Barriers/Solutions

- Recruitment from Other States/Countries
- Recognizing and Retaining California Aerospace

Susan Sloan, Vice President, Mission Assurance, Raytheon Company discussed the “brain drain” problem that is occurring as a result of many aerospace workers retiring. They see a shortage of 500,000 engineers in the future and wonder why students aren’t going into this field. The U.S.’s world ranking in terms of people holding science degrees has dropped from 3 to 13. It is also difficult to recruit aerospace workers to come to California, due to the high cost of living. In addition, the security clearance process is long. International students and doctorate holders who study here are unable to obtain the visas they need to stay and work in California. The aerospace industry is committed to providing incentives for students to study science, engineering and math. They provide scholarships and host science competitions. Companies can start recruiting students as early as middle school. Raytheon has a program called “Math Moves You.”

Andrea Seastrand said there is talk of putting together a consortium with another organization to get together and discuss these ideas (education and motivating students). Mark Sirangelo said there is no long range plan for education and it could be coupled with a long range plan for technology and industry. The Lt. Governor said that the CSU system is further ahead than the UC system in developing a strategic plan. Workforce needs are not connected to what the university systems are doing.

Len Kwiatkowski said that Lockheed is on a council of advisors to San Jose State University and the company has provided a grant to Cal Poly SLO to establish a MS program in aerospace. They are also working with WyoTech, a private technology institute, to do technology training for their technicians. He said it is easier for Lockheed to recruit students from the CA state schools.

The Lt. Governor stated that community colleges are best at connecting with the private sector in the community.

Kellie Johnson said that the industry needs to get involved in the school system. They need to bring CTE back to the schools. The industry needs to band together to market the industry as a great career option. People are the best product they have. Other states have tried to get her company to move but in her opinion, the infrastructure for the industry is very good in Southern California.

The Lt. Governor said that when thinking of synergy in a region, the Silicon Valley is typically used as an example. He asked if there is a similar synergy in Southern California in terms of the aerospace industry.

Addressing Competitiveness

Susan Sloan said that the cost of living and the cost of doing business in California is a major barrier. Andrea Seastrand said that some businesses are not being asked by their communities to expand, and gave an example of a company located in Goleta.

Len Kwiatkowski said that the R&D tax credit is very important. Kellie Johnson said that the state should bring back the MIC (manufacturers’ investment credit). Susan Sloan asked what the state could do that would not have a high cost.

The Lt. Governor noted that the state budget is going to make it very difficult for education to advance. The crisis presents a very important opportunity. We can make some significant changes. Schools need more flexibility and more local control. The Governor is talking about broadening the sales tax – more of a value added tax. He said that it is important to focus regionally and create a broader synergy between education and industry.

Meeting was adjourned at approximately 11:40 a.m.